

REMARKS

In the Office Action dated July 18, 2003, claims 1, 3-6 and 8-15 were rejected under 35 U.S.C. §102(b) as being anticipated by Goodman et al. Claim 1-15 were rejected under 35 U.S.C. §102(e) and 35 U.S.C. §102(f) as being anticipated by United States Patent Application Publication 2001/0007352.

Addressing the second rejection first, the aforementioned published application has an earliest possible effective date for prior art purposes as of the filing date of the provisional application on which it is based, which was filed on June 16, 2000. The present application claims the benefit of convention priority under 35 U.S.C. §119 based on German Application 1000167.5, filed in the German Patent and Trademark Office on January 17, 2000. A certified copy of the German application was filed with the original application papers, and acknowledgement of the receipt of the certified copy was indicated in the September 25, 2002 Office Action. A certified translation of the priority document is submitted herewith to perfect the claim for convention priority. Since the priority date to which the present application is entitled precedes the earliest effective prior art date of the aforementioned published application, the publication is not available as prior art against the subject matter of the present application. The submission of the certified translation, therefore, is sufficient to perfect Applicants' claim for convention priority and thereby overcome the rejection of claims 1-15 based on the published application.

As to the rejection based on the Goodman et al. reference, Applicants note with appreciation the interview courteously afforded the undersigned counsel for the Applicants on September 11, 2003. At the interview, it was proposed on behalf of

the Applicants to amend independent claim 1 by bringing the subject matter of claims 3 and 4 therein, which has been done by the present Amendment. Therefore, the only relevant portion of the rejection for further discussion is the rejection of claims 3 and 4. To substantiate the rejection of claim 3, the Examiner stated the vacuum evaporation technique disclosed in the Goodman et al. reference heats the subject to a vaporization temperature in a range of 550-750°C, and produces a jet of vaporized phosphor material that is deposited on the substrate. The Examiner stated the Goodman et al. reference teaches that the substrate is cooled to 100° during deposition, citing column 5, lines 7-10 of the Goodman et al. reference. The Examiner stated that because the vaporized gas flows from a hot zone (the evaporation boat) to a cold zone (the substrate) it must inherently cool to some degree as it travels.

As to claim 4, the Examiner acknowledged that the Goodman et al. reference does not provide a teaching of a means to heat or cool argon gas, as the inert gas, which is provided during the deposition process. The Examiner therefore stated the argon gas must be provided at approximately room temperature, and therefore the Examiner concluded the cool argon gas in the chamber must inherently act to cool the evaporated phosphor gas to some degree as it travels to the substrate.

As discussed at the interview, the Goodman et al. reference, in the example described in the paragraph beginning at column 4, line 61, teaches that the vacuum chamber is pumped down to 1 μ Torr, then backfilled with argon to 5 mTorr (column 5, lines 1-3). As explained in the remainder of this paragraph, the evaporation boat temperature and the phosphor feed rate are then adjusted to desired levels, and the shutter is opened to allow the vapor deposition to proceed.

As explained earlier in the Goodman et al. reference at column 2, line 58 through column 3, line 12, a radiant heater 38 and mandrel cooler are employed to achieve precise temperature control of the substrates 32. During vapor deposition, the substrate at which the vapor deposition is occurring is maintained at a precise temperature, such as 100°C, as the Examiner has noted. The aforementioned statements regarding the introduction of argon into the chamber 38, however, make clear that the argon is introduced before the chamber 38 is heated to the operational temperature in the range between 550°C and 750°C. As noted above, Goodman et al. teach that the vapor deposition begins when the operational temperature is reached.

Therefore, even if the argon is introduced into the chamber 38 at room temperature, it is heated, together with everything else in the interior of the chamber 38 (except the substrate) to the aforementioned operational temperature. There is no affirmative cooling of the vapor jet disclosed in the Goodman et al. reference by a flow of inert gas, as set forth in original claim 4 of the present application, now embodied in independent claim 1. Even if the Examiner is correct in the assumption that, because the substrate is maintained at a cooler temperature, the vapor flow will become reduced in temperature just before reaching the substrate, this does not constitute an "active" cooling of the vapor jet in the manner set forth in claim 1, by flowing inert gas through the chamber during the vapor deposition.

In general terms, even if the vapor jet is cooled just before reaching the substrate, this cooling is not accomplished by flowing inert gas through the chamber during the vapor depositing. The inert gas (argon) that is introduced into the chamber 38 in accordance with the teachings of Goodman et al. is heated to the

aforementioned operational temperature, and therefore does not, during the vapor deposition, represent a flow, nor does it have the capability of cooling the vapor jet, since the argon is at the same temperature as the vapor jet.

Applicants therefore submit that the Goodman et al. reference does not disclose all of the elements of claim 1, as amended, and therefore does not anticipate claim 1, or any of claims 2, 5, 6 or 8-15 depending therefrom.

It was agreed at the interview that amending claim 1 in this manner would distinguish claim 1 over the teachings of the Goodman et al. reference.

At the interview, the Examiner suggested that when claim 1 is amended to bring the subject matter of claims 3 and 4 therein, it should be explicitly stated that the cooling of the vapor jet takes place during the vapor deposition. Applicants have no objection to explicitly including such language, since Applicants believe by virtue of the use of the word "comprising" in original claim 3, this limitation was inherently present in claim 3 as originally filed. At the interview, however, the Examiner raised a further question as to whether including that phrase, which the Examiner believes to be necessary, would raise a new issue requiring further searching or consideration, and therefore possibly rendering the present Amendment as non-enterable.

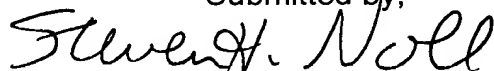
In response, Applicants submit, as noted above, that claim 3 as originally filed used the transition phrase "comprises" and therefore claim 3 as originally filed made clear that the step of vapor depositing included producing a vapor jet of the fluorescent material directed onto the substrate, and cooling the vapor jet before the vapor jet strikes the substrate. If the vapor depositing occurs by producing a vapor jet of the fluorescent material, this means that the vapor jet does not exist "outside

of" the vapor depositing. Therefore, there is no vapor jet that could be cooled "outside of" the vapor depositing, since the vapor jet exists only during vapor depositing, as set forth in original claim 3. Therefore, Applicants submit that by explicitly stating, in claim 1 as amended herein, that the cooling of the vapor jet takes place during the vapor depositing does not add any limitation that was not already present in original claim 3, and therefore does not raise any new issues requiring further searching or consideration.

In a telephone discussion following the interview, the Examiner stated he was willing to accept this position of the Applicants, and stated that an amendment wherein claim 1 is amended as proposed at the interview would be entered and considered. The Examiner noted that an updated search must be conducted, and stated that if no prior art is located in the updated search that is more relevant than the Goodman et al. reference, the application would be allowed in this form.

Entry of the present Amendment is therefore respectfully requested, as are reconsideration and allowance of the application.

Submitted by,



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